THE AGRICULTURAL MAGAZINE.

Camden, New Jersey, October 26, 1826.

PRICES CURRENT.

Wheat, brings in the Philadelphia Market, from 1 to 1 dollar and 25 cents per bushel; Rye, from 66 to 72 cents; old Corn from 70 to 73; new, from 50 to 56; Oats from 48 to 50 cents, and Barley 1 dollar. Buckwheat flour sells from 2 to 2 dollars and 50 cents per cwt. and superfine Wheat flour 5 dollars and 25 cents per barrel; Pork from 5 to 6 dollars per cwt. Lard 12 1-2 cents lb; lump Butter from 12 to 15 cents; fresh ditto. from 20 to 31 cents, and Cheese from 8 to 15 cents.

TO KEEP CIDER SWEET.

It is said, one gill of fine salt, and one pound of chalk, put into a cask of thirty gallons of cider, when wracked off, will keep it sweet and preserve its fine vinous flavor for two years. As these ingredients are neither offensive nor prejudicial to the constitution, we think the experiment worth a trial, particularly as it could be easily made, without loss of either time or money.

We congratulate our readers on the present auspicious prospects of the Agricultural interests of the country, the abundant yield of the crops of corn and buckwheat, will, it is presumed, in a good measure supply the deficiency of the earlier crops of Hay and small grains, occasioned by the excessive drought of the former part of the season. A large proportion of buckwheat was sown by the provident Farmer under an apprehension of scarcity of other grain, which has generally been uncommonly productive, and which, with the extraordinary good crops of corn in the middle and eastern states, will be a happy means of maintaining a salutary equilibrium in the price of grains, and fodder; although hay and oats it is expected will command a price above their comparative values.

It is also an encouraging anticipation for the industrious Husbandman, that in all probability his surplus produce will com-

mand a price, more proportionate to the labour and expense of raising it than it has done for several years past, and would no doubt be still more so, were it not based in part upon contingencies, and in some instances, mixed with an alloy of human sufferings not only in distant regions of the world, but even upon the borders of his own country. Some parts of the North of Europe is represented to have suffered materially from drought and heat the late season. In England and Ireland tens of thousands of the industrious poor are said to have been destitute of the coarest provisions, and numbers are stated to have perished for want of sustenance. This appalling suffering, however, cannot be attributed to a scarcity of provisions, so much as to an extraordinary paroxism of manufactural and commercial distress, in consequence of which, the laboring part of the manufacturing community were unable to find employ sufficient to enable them to purchase the means of subsistence, and thousands had to appeal to the liberality of public charities for support, not withstanding corn, was but little more than half as high as it was in 1801; but as the price of labor had also depreciated in an equal if not greater proportion, and great numbers of mechanics were thrown out of employ, by the operation of power looms in connection with other circumstances, it was out of their power to procure the necessaries of life at any price. This disastrous aspect of things and an apprehension of a failure of crops, has at length induced the British Parliament to relax in some of its commercial restrictions, and to yield to the pressing calls of the people, by admitting, to a limited extent, the importation of foreign grains ; but wether this will be a means of enhansing the value of our domestic productions, is, as yet, a matter of conjecture; it is certain that flour, since the promulgation of the intelligence in this country, has advanced upwards of twenty five cents per barrel in the New York market, and that corn &c. will command a better price this fall than it has done for some years, but wether this be attributable to the admission of foreign grains into British ports, or to other contingent circumstances, is a subject of doubtful speculation.

Agreeably to a statement made in the House of Commons by Mr. Whitemore, in April last, the whole amount of Corn imported into Great Britain, from the year, 1800 to 1820, inclusive, was 12,577,029 quarters, of which, only 87,376 quarters were from the U. States, notwithstanding five years of the time, to wit : in the years 1800, 1801, 1810, 1817 and 1818. there was an excessive scarcity of bread stuffs in England, and corn had been drawn from all possible quarters; the other importations were from Russia, Germany, Holland, and other European ports; from which, agreeably to the quotations at these respective ports given in the London Times, for June 1825, when Wheat was 67 shillings and 8 pence per quarter in England, it might have been imported, at, from 30 to 44 shillings per quarter into that country, had it not been interdicted by the Government, and of course, much cheaper than it

could have been supplied from the United States, notwithstanding the reduced prices, of bread stuffs in this country at that time. If this statement of Mr. Whitemore be correct, the admission of foreign grain into British ports may have a temporary effect upon our home market, but we ought not to place so much confidence in it as to divert our attention from the laudable efforts making to promote domestic manufactures, and to introduce the cultivation of Silk, Wine &c. into our agricultural manuels, for which such immense sums of gold and silver are annually sent to foreign countries for our home consumption. Our agricultural prospects are no doubt improving, and we trust upon a more solid basis than that of a partial intermission of the British corn laws; the friendly and commercial correspondence our Government is assiduously cultivating with the South American Provinces.

RHODE-ISLAND CATTLE SHOW.

The Rhode-Island Fair and Cattle Show took place in the village of Pawtucket on Monday and Tuesday, the 9th and 10th Oct.

Messrs. Charles Eldridge, Joseph L. Tillinghast, Christopher Spencer and G. W. Tillinghast, were appointed a Committee to offer in behalf of the Society a petition to the honourable General Assembly of the State, requesting the enactment of a law which shall authorize the public sale of Domestic Manufactures free from auction duties, under instructions from the society, and under such regulations as the wisdom of the General Assembly may sugget.

At eleven o'clock, the Society formed in procession, and moved to the Meeting House, where prayer was offered by Rev. Mr. Seamans, and an address pronounced by J. L. Tillinghast, Esq. from which is subjoined the following extract:

"Look to the mines of the Island of Rhode-Island, seized upon, as they have been, by the sagacity of distant capitalists as containing immense repositories, of fuel, and a most powerful agent in arts and manufactures. The time may not be distant when they may be employed for these latter purposes in their own vicinity. Water power has its limits, and the forests will fall. Improvements upon the steam machinery are daily rendering it more efficient and less expensive. It may be no visionary suggestion that Newport, once the Queen of New England—the seat of refinement and learning and taste—the delight of the Colonists, and still lovely in her thoughtful retreats, still delightful in her repose, still sought by the stranger for the most healthful gales that breathe upon our continent; may, by the aid of her unequalled anthracite, assume the character of a manufacturing as well as commercial city, and transcend her former opulence and beauty.

Awake to the improvements of the age, she is marking out new avenues to the main. With characteristic taste, she has selected, for an attempt in manufacture, those delicate fabrics upon which

female ingenuity alone can trace the light and graceful embroidery worthy to decorate the female form. May she succeed in this, and and in every attempt. Happy will be her sister of the noth to see her resources multiplied, her wealth and importance magnified. Happy to advance, with her, step by step, in honorable enterprise and in prosperity, wholesome to each other, and wholesome to the State; and happy will be the other portions of the State to see, for seeing they must also feel and partake of the prosperity of these and the other towns upon their bay. For do they not perceive that sea port towns are like those organs by which the body feels, and feeds upon, the exterior world? When these are obstructed, the whole body languishes. The time, the unenlightened time, has passed away, when unworthy jealousies might be excited between different portions of this small and mutually-dependent community. It is our pride and our happiness, that, in our day, superior intelligence places the mind of every active citizen beyond the reach, ABOVE the influence of such jealousies. We are all in a species of contact with each other, and feel each other's movements, and are affected by each other's good and evil fortune, in every quarter of our limited territory. You, whose dwellings are in the crowded street, feel that the value of your occupations advance with the advancing fertility of the fields. You, whose habitations are among the rural hills and shades, feel that the price of the land makes your wealth, grows partly upon the pavement of the towns —that every new building erected in them adds something to the value of every farm in the State. Their augmenting capital, like Pactolus with its golden sands, wanders in silent course, to your fields and forests. It is for you, as well as themselves, that their ships encounter the icy seas, "the stormy spirit of the Cape," and the hot breath of the Tropics—that their warehouses hold the tribute of either India, the spoils of every ocean, in exchange for your productions—that their wharves stretch themselves to the channels of the deep, and their canals penetrate the mountain and the rock. Every obstruction to their enterprise checks the current that was flowing to you. Every wound inflicted on them, though by them first felt, will eventually be mourned as your misfortune. Our population is comparatively small; then let us be united and exhibit the moral force which disunited millions cannot wield. We are reproached with our scanty domain. Let it be our pride that, with so scanty a domain, we can, by union and good works, effect so much. Instead of discouragement, let this consideration act as an incentive, an ever stimulating excitement, to pursue, within these narrow limits, traced by the hand of persecuted freedom, and brightening in the light of extorted fame, none but the noblest objects—and by the noblest means."

The following letter from Commodore Creighton was received and read, and a committee appointed to wait on that gentleman, with suitable expressions for the highly acceptable donation, so handsomely tendered to the Society:

Providence, (R. I.) October 7, 1820.

"SIR: When last in the Mediterranean, I procured from the Kingdom of Tunis, a number of broad tail sheep, and a Spanish Boar from Malaga. These animals were selected by our consuls, residing at the above places, and are very superior of their kind.

"It has always been my intention to present the Boar and a Tunisian Ram, to the Society over which you preside. I now offer them, and hope they may prove acceptable. The breed of sheep, such as the one now presented, are remarkable for their heavy fleece, large frames, high flavour of their flesh, and broad sails: the latter are esteemed a great delicacy.

"That these animals may prove beneficial to the State, and the Society continue to increase in usefulness is my most earnest wish. And for yourself, Mr. President, I pray you to accept assurances of my very great respect.

JOHN ORDE CREIGHTON,
Captain United States' Navy.

To *James Rhodes*, Esq. President of the
R. I. Agricultural Society, &c.

FROM BOSTON PAPERS, OCTOBER 20.

BRIGHTON EXHIBITION.

The Massachusetts Agricultural Society held its annual exhibition on Wednesday, at Brighton in this vicinity. The number of cattle and variety of manufactured articles were not altogether so great as we have seen on former occasions; but it should be recollected, that similar Fairs were held, during the last week in the three large adjoining counties. Some of the cattle were as large and fat as were ever seen before. Three oxen from New Braintree, 6 years old, weighed 2305, 24,000, and 2450. The twin oxen, 7 years old, belonging to Mr. Boylston, of Princeton, were large and very fine in appearance, one weighs 2200 and the other 2160. The swine were uncommonly fine; and several cows and calves, we think, must be pronounced equal to any ever exhibited. The bull from Worcester is a noble animal. In the Hall, there were various articles displayed that give evidence of great industry and ingenuity. We saw a quantity of black lead pencils, manufactured by Mr. Munroe of Concord, deserving the attention of the public. The flannels were very fine, and so also were the broadcloths, though the quantity was not great. The carpetings were a good imitation of the Venetian; and appeared to be of firm texture.

The pens (80 in number) were all occupied, and chiefly with stock in some one respect superior. There were seven well fatted oxen. The heaviest pair, weighing 2398 and 2398 pounds, belonging to Henry Penniman of New Braintree. The next, a pair of twins, weighing 2226 and 2166, owned by Ward N. Boylston,

of Princeton.—The others were owned one each by Amos Davis, Groton, Asa White, Boylston, and Stephen Longley, Shirley; and were fine looking cattle.

One cow deserves particular attention. With her progeny of seven, all calved within thirty-one months and 19 days; this cow might well hold her head above her neighbors. In this connexion we mention a calf, which, at 7 months, weighed nearly seven hundred pounds. It was in the young stock especially, that the greatest improvement was visible. In sheep the exhibition was not equal to former years. There were some Merinos from the flocks of the Messrs Barretts, of Concord, and Ezra Whiton, Hingham, and some Southdown sheep, from S. Henshaw, of this city. Of swine there were some excellent specimens belonging to J. F. Floyd, of Medford, R. Mackay, of Weston, Silas Dudley, of Suttoo, and D. P. Townsend, Roxbury; and latter of the Chinese breed. Besides other animals there were several handsome and spirited colts in the pens.

The number of fine cloths and cassimeres was quite limited; though such specimens as were there, chiefly from Shepherd's factory at Northampton, were handsome, and one of the cloths superior. Of household manufactures, such as carpets, rugs, counterpanes, blankets, flannels; &c. there were several specimens of each. Of the latter, was a piece by Miss Clarissa Fay, of New Braintree. We observed some fine knit woollen hose by Miss Rhoda Fish, of the same town.

We noticed, among useful and ornamental manufactures, a beautiful shell comb in imitation of the India combs, made by U. L. Bailey of W. Newbury; rich gilt buttons; by R. Robinson, Attleboro'; Grass Bonnets, in imitation of Leghorn by the Misses Pond; a beautiful hat, by Hannah Dunton, Boylston.

The exhibition of ornamental needlework was much indebted to the Academy of the Misses M. A. & L. Clark, of this city, for variety and excellence. Of wrought lace and muslin, and the coarser though of less difficult work of samplers and the coverings of music and foot stools, there were several specimens by the pupils of the Miss Clark. We noticed a handsome veil wrought by Laura A. Bartlett, of Kingston; another by Caroline Roulstone of the city; and one by Lavinia P. Baker, who presented her work for exhibition with a specimen of chirography equalled only by her needle. Among other articles of like fabric was a veil by Lydia B. Child, of W. Boylston, down tippets by the children of Mrs. Wheeler, Worcester, and flowers by Charlotte Brown, Wrentham.

The Broadcloths and Kerseymeres of Shepherd & Co. excited great admiration. The claret and blue broadcloth and black kerseymere, were of a beautiful texture, and believed to be fully equal to any ever imported. Some beautiful blue Satinet, from the manufactory of Messrs. Pitt & Buffum, of Mendon, was much admired. Flannel, manufactured by Theodore Lyman of Mendon, was very superior in point of fineness and softness. Mrs. Lucy

Bencroft, of Pepperell, exhibited 30 yards of flannel of her own manufacture. Also 20 yards broadcloth, and 12 yards blanketing. A pair of blankets, manufactured by Miss Rhoda Wilcox, of New Braintree, was considered a very fine article. Some excellent specimens of American Carpeting were exhibited—some made by Mary Stearns, of Worcester; by Jonah Wills, of Kingston; and 30 yards rag carpeting by Rebecca Brown, of Concord. Of Hearth Rugs there were a number—all very superior and very elegant—made by Misses Cynthia A. Beale, of Quincy; S. A. Orne, of Watertown; Theresa Thayer, Greenfield; Allica W. Ames, of West Bridgewater. Red Cassimere Shawls by Misses Sophia Coe, of Granville, and Theresa A. Thayer, of Greenfield—very creditable to the ability of those young ladies, as well as where some other articles exhibited by them.

Lace Veils were exhibited by Miss Charlotte L. Roulstone, of Boston, wholly wrought on the finger without a frame; by Miss Sarah L. Clough, Boston, by Miss Lavinia P. Barker, do.; Miss Ann Emerson, do; Laura A Bartlett, Kingston; Louisa W. Bowman, New Braintre Also, lace caps, by Misses Healy, Mary and Rebecca Hadley, Boston; a fine lace vandyke by Miss E. Hobbs, Weston; and several others. A muslin dress by Lucy Anne Howe, of Hopkinton; another by a lady of Milton. All the above work, and much more not noticed, were very neat and beautiful specimens of needle work, and speak in high terms of the skill and ingenuity of the American females.

There were good specimens of coarse needle-work upon the seats of music stools and crickets, and two pictures, all from the academy of the Misses Clarks, of this city. The pictures were worked by Misses Matilda Goddard, and Eliza B. Hood; the other articles by Misses E. F. Owen, O. I. Andrews, Lydia Owen, M. C. Morse. and M. G. Woods. A lady's indispensable, worked in the same manner, from the same academy, was also exhibited.

An exceedingly fine grass bonnet, made by Miss Maria Heartwell, of Shirley; of Poa pratensis (spear grass) excited universal admiration for its beauty and the firmness of its texture. A very elegant straw bonnet by the same young lady, was also exhibited. Miss Hannah Durton, of Boylston, exhibited a very fine straw bonnet. A light blue down bonnet, made by Miss Lucinda H. Nutting, quite a young Miss of Gorton, was much admired. Several down tippets and Collars, made by the children of Mrs. Wheeler, of Worcester, were exhibited; also some artificial flowers, by Miss Charlotte Brown, of Wrentham.

A worked top tortoise shell *comb*, made by U. I. Bayley, of West Newbury, was much admired. A pair of gloves made of *suet skin*, by Mrs. Cynthia Thayer, of Greenfield, excited much attention. They were very neat and handsome. Several pieces of Linen Diaper and a worsted coverlid, were exhibited by Mrs. Olive Prescott, of Westford; 48 yards of 3-4 Linen Diaper, by Miss L. Hartwell, of Lincoln; 2 pair of children's socks, by Sarah

A. Houghton, of Brighton; aged 6 years: a Counterpane by Abigal Bigelow, of Weston.

A sample of American Flax, dressed at Hyde Park, New York, without being rotted, was exhibited.

Some Apples were exhibited by the Rev. Thomas Noyes, of Needham, half spice apples and half russettings. He informed, in his letter to the President of the Society, that an apple tree was engrafted with a scion of a spice apple, within about 50 feet of which stood a russeting apple tree, but they did not come in contact. In gathering the fruit of the engrafted tree, which bore about two bushels, they discovered about three apples mixed as above, and a few apparently wholly russettings.—The mixed apples appear to possess the qualities of both the spice and the russetting. The spice apples he informs generally grow in clusters, which come in contact, and on this tree there were three which grew together, one was generally of the mixed kind.

Mr. Noyes also exhibited a few ears of early corn, with the stalks, (seven in number) produced by one kernel. It was planted near some beets and was much neglected, and but little hilled, yet the product of the single kernel amounted to 3611 kernels. It was planted later than the other corn, and had not some of the ears been blasted the product would have been much greater.

There were some new inventions, among which was Warren's Threshing Machine, which was exhibited to the great satisfaction of the committee on inventions.

A large flock of Saxony Sheep was sold a Brighton on Tuesday.

CROPS IN MASSACHUSETTS.

An agricultural committee for viewing farms and crops in the county of Berkshire, having just closed their first view, extending from Sheffield to Williamstown, state. as the result of their observations, that 'the prices of agricultural products will not, in several particulars, equal the last year's'—and that 'there will be no scarcity or want of food for man or beast, in all Berkshire this year'—that much Indian corn has been sowed broadcast, and appears remarkably thrifty—that the quantity of oats sown this year, probably exceed in acres one-half, any former year, and were never stouter or more productive—than Indian corn never appeared more promising—the winter wheat and rye, on an average, middling—a fine yield of peas—flax very fine and large—a fair crop of barley—potatoes abundant in acres—and that the meadows will turn out far better than was supposed.

Huntingdon, Pa. June 21.

STUMP ENGINE.

S. Davis, Esq. of Franklin township, has purchased the right for this county, of a patent Stump Engine, for extracting stumps

and roots. The utility of this machine has been completely tested. At Philipsburg, Centre county, where the timber grows to an immense size, it was found, with the assistance of a yoke of oxen, to be of sufficient power to extract the largest pine stumps. The inconvenience and waste attending the cultivation of new land may, by the application of this machinery, be entirely obviated.

Adv.

FAMILY MILL

"Every man his own miller." Under this head the Gardiner Chronicle has a description of a flour mill invented by Mr. David Flagg, accompanied with a plate—cost 35 dollars. It is turned with a crank, by a man or boy, and will grind two bushels of grain in an hour. It is about the size of a dining table. It might almost be called "the pocket gristmill." It may be very useful in places distant from water power, in new countries, and in times of drought when streams are low. *Kennebec Jour.*

CUTTING HAY.

Nearly double the fodder is, every year and by almost every farmer, expended than would be sufficient, was it properly and economically prepared and fed.

It is ascertained that hay goes much farther by being cut into chaff before it is foddered out. Many scientific and observing men have ascertained by actual measurement, that a saving of nearly one half, and some say more is effected by this means.

But if it is not true that hay is doubled in value by cutting, it cannot be denied that in applying this economy properly to coarser kind of fodder, such as straw, corn-stalks, oats in the sheaf, &c. a saving of one half, at least may be made. *Vermont Pa.*

TO PREVENT CATTLE FROM CHOKING.

It not unfrequently happens that when neat cattle are fed with potatoes, turnips or pumkins, or when by breaking into orchards they accidentally come at apples, they get an apple or potatoe down the gullet, and become choked therewith—that is, they have not the power to swallow it or fling it up, and often die for want of proper assistance. There are many modes of relief practiced by inexperienced persons, which are very improper and unsafe, and the animal too often expires under the operation.—The following is not only safe and effectual, but the application is easy and may be performed by a child, or any person who has sufficient strength.

Take a whip-stock, or any tough, elastic, smooth stick, about three feet long and and one-fourth of an inch in diameter; make one of the ends smooth and apply a ball of woollen yarn, about two or two and a half inches in diameter, over which strain a sott piece of leather, large enough to be made very fast to the stick by a piece of strong waxed twine; open the creatures mouth. and bring the head

up so that the passage may be as straight as possible; introduce the ball into the throat and gently push the obstruction forward, which will relieve the beast immediately without the least harm.

PRESERVATION OF APPLES.

The following valuable observations, contained in a letter from Noah Webster, Esq. have been published in the Massachusetts Agricultural Repository.

"It is the practice with some people to pick apples in October, and first spread them on the floor of an upper room. This practice is said to render apples more durable, by drying them. But I can affirm this to be a mistake. Apples after remaining so long on the trees as safety from the frost will admit, should be taken directly from the trees to close casks, and kept as dry and as cool as possible. If suffered to lie on the floor for weeks, they wither and loose their flavour, without acquiring any additional durability. The best mode of preserving apples for spring use I have found to be, the putting them in dry sand as soon as picked. For this purpose I dry sand in the heat of the summer and late in October, put down the apples in layers, with a covering of sand upon each layer. The singular advantages of this mode of treatment are these: 1. The sand keeps the apples from the air, which is essential to their preservation. 2. The sand checks the evaporation of the apples, thus preserving their full flavour, at the same time, any moisture yielded by the apples (and some there will be) is absorbed by the sand, so that the apples are kept dry, and all mustiness is prevented. My pippins in May and June are as fresh as when first picked, even the ends of the stem look as if just separated from the twig."

Abridged notices, from the Bulletin des Sciences.

CURE FOR HOVEN ANIMALS.

When animals have eaten too great a quantity of fresh plants, they become swelled, and often die in a few hours for want of proper treatment of the disease. In some countries they make a puncture into the abdomen and intestines, and thus let off the gas which distends the stomach and bowels; but this operation is attended with inconvenience and danger. As the distension is caused by the carbonic acid gas which is produced by the fermentation of herbage in the stomach, nothing is more efficacious than to make the animals swallow a substance with which the gas will combine. A spoonful of ammoniac mixed with a glass of water and given to the animal will absorb the gas in the stomach and effect a speedy cure. M. Thenard has made use of ammoniac for 14 hoven cows, and this method has perfectly succeeded with twelve of them: the other two perished because the ammoniac was employed too late. Another person has used ammoniac with two cows, and both were immediately cured.

[Perhaps other alkalies will be as effectual as ammoniac. The New England Farmer (No. 25, Vol. I) recommends a dose of lye, made with potash, pearlash, or house ashes.]

FROM THE BALTIMORE AMERICAN FARMER.

CIDER.

It is of importance in making cider, that the mill, the press, and all the materials be sweet and clean, and the straw free from must. To make good cider the fruit should be ripe (but not rotten,) and when the apples are ground, if the juice is left in the pummice twenty-four hours, the cider will be richer, softer, and higher colored; if the fruit is all of the same kind, it is generally thought that the cider will be better; as the fermentation will certainly be more regular, which is of importance. The gathering and grinding of the apples, and pressing out of the juice, is a mere manual labor, performed with very little skill in the operation; but here the great art of making good cider commences; for as soon as the juice is pressed out, nature begins to work a wonderful change in it. The juice of fruit, if left to itself, will undergo three distinct fermentations, all of which change the quality and nature of this fluid. The first is the vinous; the second the acid, which makes it hard and prepares it for vinegar; by the third it becomes putrid. The first fermentation is the only one the juice of apples should undergo, to make good cider. It is this operation that separates the juice from the filth, and leaves it a clear, sweet, vinous liquor. To preserve it in this state is the grand secret; this is done by fumigating it with sulphur, which checks any further fermentation, and preserves it in its fine vinous state. It is to be wished that all cider makers would make a trial of this method; it is attended with no expense, and but little trouble, and will have the desired effect.

I would recommend that the juice as it comes from the press, be placed in open headed casks or vats: in this situation it is most likely to undergo a proper fermentation, and the person attending may with correctness ascertain when this fermentation ceases; this is of great importance, and must be particularly attended to. The fermentation is attended with a hissing noise, bubbles rising to the surface and there forming a soft spongy crust over the liquor.—When this crust begins to crack and white froth appears in the cracks level with the surface of the head, the fermentation is about stopping. At this time the liquor is in a fine, genuine, clear state, and must be drawn off immediately into clean casks, and this is the time to fumigate it with sulphur. To do this, take a strip of canvass or rag, about two inches broad and twelve long, dip this into melted sulphur, and when a few pails of worked cider are put into the cask, set this match on fire and hold it in the cask, till it is consumed, then bung the cask and shake it, that the liquor may incorporate with and retain the fumes; after this fill the cask and bung it up. The cider should be racked off again the latter part of February or first of March; and if not as clear as you wish it, put in isinglass to fine it, and stir it well, then put the cask in a cool place,

where it will not be disturbed, for the fining to settle. Cider prepared in this manner will keep sweet for years.

It is certainly of great importance to the people of America to cultivate the fruit that is natural to the soil of their country, and to make the most of the fruit which the soil produces, especially, when its produce is an article of value and of great consumption in the country.

CASHMERE GOATS.

These valuable animals will doubtless soon be introduced into our own country. The Massachusetts Agricultural Society some time since, offered the sum of one hundred dollars to the person who should introduce into Massachusetts from Europe, a male and female goat of the pure Cashmere breed." From a letter published in the Massachusetts Agricultural Repository for Jan. 1824, from John Wells, Esq. in Paris, it appears these animals have been successfully introduced into France; that the prices of them are from 15 to $85 a piece, and that the duty on their exportation is only about four cents.—The original stock from which France is now supplied was procured with much labour and expense, by Messrs. Ternaux and Jaubert from the foot of Mount Caucassus, in Asia. Out of 1,229 goats with which they set out, only 400 reached home alive. It is from the *down or wool* of these animals, that those expensive articles, called *Cashmere Shawls*, are made. The down is procured from them in the month of April by combing them with fine combs.

FROM THE MARIETTA PILOT.

YELLOW LEAF TOBACCO.

Much has been said, written and published upon the yellow leaf tobacco—I know of nothing more to be said upon the growth and curing of it, than has been published in the public papers. But the question is often asked, for what purpose it is used and to what market it is taken?

Many able cultivators of the soil would go into the business of growing tobacco, if they had faith that they should obtain, for a few years to come, an average of $10 per hundred for the three best qnalities. I have no doubt they will command more than that price in Ohio, and in Georgetown and Baltimnre, for the same; they command, upon an average yearly for the three best qualities, over $25 per hundred.

It is but a few years since there was much demand for American yellow leaf. Since the war between the Greeks and Turks—now the demand is much greater.

The Merchants of Holland have carried on a very considerable trade for some years with the principal cities of the Russian Empire. The American yellow leaf is almost all shipped to Holland; the Hollanders use that which costs them less than $20 per hundred—and that which costs over is sent to the Russian market for *smoking and snuffing*.

The Russians make great use of tobacco, and heretofore the Turks have supplied this Empire of near 60,000,000 souls with the principal part of their tobacco, at from $75 to $100 per hundred weight; but since the war between the Greeks and Turks, there has not been a supply from the latter for the former, which has called into earnest demand American yellow leaf, and as the American (and Ohio grows the best,) is not much, if any inferior to the Turkey tobacco, we may fairly calculate on a steady increasing demand in the Russian market—to the total exclusion in a few years, of the Turkey tobacco. The demand for this fine tobacco is increasing in London, and in many other parts of the world, where luxuries are of greater moment than gold.

It is frequently asked, what the prospect is, as to the price for tobacco for years to come—and all that could be learned was, that the shippers held up the idea of the present prices—about $40 for the best—and that it would be firm at the present prices; what I have stated is the basis of this belief.

The care and attention of growing the fine tobacco is great; but that of firing of it, and bulking of it, seeing it does not heat, and of packing handsomely in hogsheads, is more—yet, after all the labor and expenses of growing tobacco, (which is fitting the soil for the reception of sheep, and other valuable branches of farming,) nothing is so profitable—and it is cash.

From all the information I have been able to obtain, while at Washington this winter past, I cannot believe any farm produce will pay the laborer so well for years to come, as the yellow leaf tobacco. Your obedient, very

Humble servant,

NAHUM WARD.

DR. FRANKLIN'S LEGACY TO MECHANIC'S.

Among the charities of Philadelphia, may be enumerated the bequest of Dr. Franklin, to the corporation of the city, for the purpose of lending small sums "to young unmarried artificers, under the age of twenty-five, as have served an apprenticeship in the city and faithfully fulfilled the duties required in their indentures." The legacy amounted to 1000*l.* No loan to one person is to exceed 60*l.* The interest paid by the borrower is 5*l.* per. cent. and he is to give a bond with two suerties for the payment of the money. The present amount of the sum, including interest due is, $17,596, being an increase of $13,152. Dr. Franklin calculated that at the end of 100 years, it would amount to 131,000*l.* or $580,640; of which he directed, that 100,000*l.* should be applied for public purposes, and the balance, of 31,000*l* left to accumulate for another century, at the end of which period it will amount to four millions of pounds sterling; which sum is to be divided between the inhabitants of Philadelphia and the state of Pennsylvania.

HESSIEN FLY.

Mr. Jesse Buel, former editor of the Albany Argus, having made a fortune, left the desk for agricultural pursuits, and has presented the public with the result of his reading and experience "On the enemies of the wheat crop." His essay is very long, but an idea of it may be gathered from what follows:

"From what has been stated we may draw the following conclusions:—

1. That the eggs of the fly are deposited upon the wheat crop in the Spring and in the Autumn, and often during the Summer, and that in four or five days, they change to the caterpiller state.

2. That the mischief is done by the catterpiller in September, before the severe autumnal frosts, or during the months of April and May.

3. That the insects remain in the chrysalis during the winter, where they have been deposited and nourished.

4. That they select the weakest plants to do most mischief when the growth is checked by unfavorable weather, or poverty of soil; and that a vigorous and constant growth renders their attack comparatively harmless.

5. That there is no variety of wheat which can long escape their ravages.

6. The best remedies consist of good tilth—a rich (but not wet) soil—late sowing—ploughing in the stubble immediately after harvest, and perhaps feeding off the crop in the spring, with sheep, or other light footed stock.

I will suggest another remedy, which does not seem to have been noticed by any writer, on this subject. It is to sow powdered caustic Lime upon the crop, while the insect is in the egg, or caterpillar, on the blade of the wheat, or even when it has descended within the sheath. The utility of this application has been demonstrated in the experiments of my friend and neighbor, William Chapman. My own practice affords the corroborating proof. In 1822, I sowed two pieces of spring wheat, of one and two acres, on grounds in all respects similar. separated by a small ravine. Sometime in May, I discovered that a great number of plants were of a stinted growth, and of a dark green color; and upon examination, I found the insect had obtained its lodgement within the sheath. I immediately sowed two bushels of lime, upon one acre, while there was a heavy dew upon the ground, according to the directions which I had received from neighbour Chapman, and left the other to its fate. The limed wheat gave a good crop; the other not more than half a one.

SICKLINESS OF THE TIDE WATER COURSES.

There is a general impression too much warranted by the fact, that all farms on our water courses are very liable to bilious disor-

dere, yet we have known striking exceptions, growing, as we are sure, out of the rigid and sagacious management of the proprietors; we could name the case of a farm of 1200 acres on the *Gunpowder River*, Baltimore County, Maryland, cultivated by a mixture of free and slave labour—overlooked by a Massachusetts man with his wife and family about him, on which establishment, for years past, there has been, and is now, as little sickness as amongst the same number of labouring people in Washington or Allegany county, whilst fell disease is prostrating their neighbours all around. The owner is a gentleman who has accumulated a very large fortune by an enlightened, comprehensive and honourable system of commercial operations. He has been farming for some years, on what may be considered a large scale, though apparently more for exercise and amusement, and their concomitant, health, than with any view to profit.

"Oh happy he! whom, when his years decline,
His fortune and his fame by worthy means
Attain'd, and equal to his moderate mind,
His life approved by all the wise and good,
Even envied by the vain) the peaceful groves
Of epicures, from this stormy world,
Received to rest; of all ungrateful cares
Absolv'd and sacred from the selfish crowd.
——— on him the balmy dews
Of sleep with double nutriment descend."

In farming, as in other things, the course of the gentleman alluded to, is original, never adhering to old customs, but when they are sanctioned by *his own* reason. The reader would know how it is that he secures to his people that greatest of all blessings, *health*, which money cannot buy?—As far, then as we understand it, the outline of his system is, to provide for his labourers abundance of animal food, good clothing, a most rigid confinement of every one to his *house after sunset*, from the first of September until after frost; and a strict prohibition, under severe penalties, of *fishing and exposure to night air*.—To these precautions, he adds a biscuit and bitters before going to work to stay the stomach until breakfast. Grass kept down and no trees planted to harbour musquetoes near the house. The result is rapid improvement of land, large crops, fat cattle, robust health, and banishment of the Doctors! and happily for his friend and to his own honour, the health which exercise procures, and the wealth which is acquired by commercial sagacity are not united with a *churlish and miserly temper*. Nature has added to his other blessings, a heart to welcome and a spirit to enjoy the society of his friends. For *them* and their diversion, more than for self gratification, not only the board is spread with all the delicacies of land and water in their season, but game of all sorts is reared and preserved, and the means of pursuing it kept always at hand. Such of them as delight in the chase, may there, when

"———the cheerful morn
Beams o'er the hills, go, mount th' exulting steed,
Already see the deep mouth'd fox hounds catch
The tainted maizes; and, on eager sport
Intent, with emulous impatience try
Each doubtful trace, or if a nobler prey
Delight you more, go chase the desperate deer;*
And through its deepest solitudes awake
The vocal forest with the jovial horn.
But if the breathless chase o'er hill and dale
Exceed your strength, a sport of less fatigue,
Not less delightful, the prolific *stream* affords.
Others more hardy, range the purple heath,
Or naked stubble; where, from field to field,
The sounding coveys urge their labouring flight;
Eager amid the rising cloud to pour
The gun's unerring thunder."

We cease to repine at the inequalities of fortune, when she happens thus to pour her gifts into the lap of those who have hearts to disburse them freely at the call of benevolence and hospitality.

* There are more than one hundred deer on the Hare-wood estate, from which the best buck is always selected as an annual offering to the venerable *Carroll*, of Carrollton, on his birth-day.—The last of these recurred on Wednesday last, the 20th instant, when in fine health and spirits he received the heartfelt gratulations of his family and friends at his manor, on Elkridge. It was highly gratifying to see the last surviving signer of the Declaration of Independence, passing into his *ninetieth* year, still exhibiting so perfect a model of elegant manners, such a happy example of cheerfulness and intellectual refinement, erect and sprightly as any of the party; left, as it would seem, by Providence, to inculcate by their *visible* fruits the inestimable value of temperance, cleanliness, regularity in diet, and bodily and religious exercises, and a wise government of all the grosser passions. He plunges into his limestone spring bath every morning before sunrise, and still rides on horse back with pleasure in good weather.—A large portion of the day is devoted to reading. Having received at St. Omers, the best classical education. he have always retained his partiality for Latin and French, literature.

On the effect of stirring the surface of the earth, as a relief against drought.

The following is copied from the New England Farmer, of the 18th instant, published originally in the Massachusetts Agricultural Repository, communicated by Mr. Lowell—and is well worthy the attention of the Husbandmen.

This is a trite subject, and one which, we are aware has been long settled by intelligent cultivators in all countries. It is very familiar to gardners, and the superior production of gardens over field culture, may be attributed in part to the more frequent application of the hoe and spade. Yet, it is true, that a very great num-

ber of Farmers deny the proposition, and disapprove the practice. They think it dangerous to plough and hoe, in the time of extreme drought and heat, our own experience of 20 years has convinced us, that it is much superior as a remedy against drought than watering in the limited manner, in which that must always be applied. There has never been a season in our memory in which there was a greater necesaity for the application of all remedies against drought, than the present. The drought was not only of longer duration, but it took place when plants were the least able to resist it, not having sent their roots in quest of nourishment far, wide and deep. The early foliage,—also, is more tender, and more liable to wilt under a scorching sun and a drying wind.

In this extraordinary season, I had a small patch of early potatoes planted in a warm and sandy soil, purposely to procure an early crop; the soil was at least, three quarters pure sand, mixed with some food for plants, among the sand. The severe drought threatened a total loss of the crop. The potatoe stalks were feeble, drawn up, scarcely larger than goose quills, and I expected every day to see them wither; all hopes of a crop were abandoned. I thought, that they were the fair subject of a *desperate* experiment. On one of the hottest, and driest days. I gave them a thorough ploughing, passing the plough four times through each row; first ploughing two furrows from the hills, as near the roots os possible, without throwing out the sead potatoes, and then returning the loam, or earth, instantly back by two other furrows. No rain intervened for ten days. In three days after, the potatoes changed their colour, they started afresh, as if they had received the benefit of ample showers, while not a drop of rain had fallen.

The dews which were abundant, settled upon the new turned earth, while before the ploughing no moisture had been apparent.

The last fact, though it cannot have escaped the notice of the most careless cultivator, has not been as yet explained. We can easily see, that a soil, rendered porous, would more readily and easily convey its moisture to the roots It becomes like a sponge, and is readily permeable, or rather readily permits the moisture to pass between its particles. But it is not yet understood, why it attracts the moisture. Perhaps, however, this may be owing to its presenting a much greater surface to the moist air of the night. The fact, however, which is what most *concerns us*, is settled. Perhaps some of the experiments of our distingnished countryman, Dr. Wells, a physician of London, who rendered himself distinguished by his remarks on dew may tend to explain this fact, tho' it is not my purpose, how to examine the theory.

Every man, who feels an interest in the question, can satisfy himself, at once by stirring a small piece of earth, in a time of severe drought, and if he does not find it in the morning more filled with moisture, than the undisturbed ground in its vicinity, let him continue a disbeliever.

But there is another mode, and it is one, which I never seen suggested, by which I apprehend the stirring of the surface and making it light and porous is beneficial in great droughts. It is

this: light porous bodies are bad conductors of heat; perhaps because they have more air between the interstices. The facts are familiar to us. Metallic bodies acquire an intense heat under the rays of the sun, so do stones in proportion to their density. The earth, when very compact, will become exceedingly hot, but garden loam which is very porous, remains cool at noonday, two inches below the surface. I believe therefore, that moving the surface, and keeping it in a light and porous state, enables it to *resist the heat of the suns rays*, that the air between the particles of earth communicates the heat more slowly, than the particles themselves do, when in close contact.

Such is my *theory*; but I am an enemy of theories, I always distrust them, I look only to facts; and having observed that a slight covering of half an inch of sea-weed would preserve my strawberries from drought, which can only arise from its lying so loose on the surface, I have been led to infer, that the *undoubted fact*, that soil in a loose pulverised state resists drought, is *owing to the same cause*, to wit, the slowness with which the heat of the solar rays is communicated to the roots. But be the theory sound, or unsound, I am pursuaded that every farmer will find that the free use of his plough and hoe, in times of severe drought, will be of more value to him than as much manure, as that labour would purchase. I have been always convinced from my experience as an horticulturist, that the great secrect of cultivation consists in making the soil porous. In raising exotic plants, we known it to be true, and our flower-pots are always supplied with soil, the most porous, which we can obtain. The farmer may borrow light from an occupation, which he looks upon with disdain, but which serves to elucidate and explain the secrets of vegetation.

AGRICULTURAL PROJECTS.

FROM THE VILLAGE RECORD.

After Frederick of Prussia had enlarged his kingdom and reaped a full harvest of that sort of renown that arises from having slain, in successful battles, near a million of his fellow men, he set dowu to improve his country. This was truly noble. Here he acted the statesman—the sage—the father. I want, said he, to his minister at London, a *schemer*; one who is good at laying plans and making calculations. The minister, in reply, spoke of an Italian—as wild a schemer as his majesty could wish—always laying grand plans for improvement, but himself, poor ss a church muse. Beware, added, the minister, lest he lead you astray. Send him on, said the king. Let him plan—we will then exercise our own judgement. Accordingly —— went to Berlin—some of his schemes were rejected—others adopted, to the great benefit of Prussia. If we mistake not, the manufactures of its elegant porcelain was a work the result of his suggestion.

But whence does all this lead? Is it a mere story, or has it an application? You shall hear.

Our Agriculture is much depressed. We used to export 20 millions of dollars worth of bread-stuffs—we do now export only 6

millions—so greatly has that branch of trade fallen off. Formerly the United States fed the armies of Europe—now Europe raises bread to spare. Our habits of farming were to sow and plant from 40 to 60 acres out of an hundred, in grain, when there was a large demand abroad. Although there is no demand abroad, we continue nearly in the old way, to sow and plant the same fields—the market is glutted—300 bushels of wheat bring 270 dollars, when 200 bushels ought to bring that money, to be upon an equality with the prices of other articles of traffic. What is to be done? Shall we go on in this way under all changes of circumstances, and carry the grist in one end of the bag, and the keppel stone in the other, because our fathers did so?

There are Agricultural productions which we import to a large amount, which our citizens will not do without, six or eight times more profitable to produce than wheat, and which our own farmers might as well raise, as to purchase from India or Europe. We are, in fact, tributary to the farmers in India and Europe to the amount of ten millions a year—paying them enormous profits, while our own agriculture is languishing. The articles to which we now have special reference are Silk and Wine. More than ten millions worth of Silk was last year imported. The precise amount stands thus:

Silk goods from India		$3 694,707
"other places		6,576,829
"Raw		8,090
		10,289,617
Exported.		
Silks from India,	$1,380,231	
other places,	1,185,505	
"unmanufactured,	21,639	
		2,567,375
Leaving for our own consumption,		$7,692,242

The India Silk, it will be remembered, is paid for in silver, and is a heavy drain upon our specie.

Of Wines, the importation last year was 3,160,528 gallons.

A portion of this was undoubtedly of these fine wines which we cannot hope to equal for some years, if ever; but the greater proportion of it is of that quality which we can certainly make with ordinary care. An old negro who lived with a wine merchant in the city, said one day, he was sure his master must come to ruin—he bought and rolled into his cellar an hundred hogsheads of cider every year, and never a drop went out again; he could not think where it went to, and was sure his master must be ruined." The presumption is, that one-third of the wine imported is drank pure—that the other two-thirds are more or less intermixed; and probably there are sold from an importation of 3 millions, 5 millions of gallons. More Madeira wine, as it is called, is sold in England, than the whole Island of Madeira produces. The common wines

we drink are adulterated, and often by an admixture of poisonous substances; but by making our own, the public could have it pure wholesome—(☞ and it would become a substitute for burning, consuming, poisonous whiskey. The French are less addicted to intemperance than the English or the Russians; and the reason assigned is, that they drink wine that cheers and enlivens, instead of whiskey and brandy, that inebriates and brutalizes.

Would it be profitable to raise silk and wine? It is believed highly so.

Mr. Genet, in his memoirs on the subject of silk, states that "An ounce of the seed of the silk worms will produce forty thousand worms, that will consume one thousand pounds of white mulberry leaves, easily supplied by fifty grown trees, or two hundred small ones, between two and three years old, from the seed or from the slip; and the produce in silk will be, upon an average, twelve pounds of drawn raw silk, allowing all contingencies.

"A small hedge, that will occupy the twentieth part of an acre, being planted with bushes not more than three years old as aforesaid, will supply and accommodate 100,000 worms, the produce of which will be thirty pounds of raw drawn silk, and if the whole acre is planted in the same way, the produce will be six hundred pounds, which, if merely spun into sewing silk, would amount, at the present price of American sewing silk in Albany, to three dollars per pound, sixty feet to the skein, and one dollar and fifty cents per thirty feet.

According to this statement, land in white mulberry trees, in full growth, would give a produce of $1,800. In our opinion, there must have been some error in the data from which this distinguished gentleman made his calculations- Mr. Fitch, of Mansfield, Conn. a town which produces silk to the amount of $15.000 in value a year—(And suppose each township in Chester county produced that amount, 42 multiplied by $15,000—$630,000. Six hundred and thirty thousand dollars! That would be a handsome sum.) has the following statement.

"One acre of full grown trees, set one and one half rods apart, will produce forty pounds of silk.

"The labor and the board may be estimated at eighty dollars. The spinning the silk at thirty-four dollars. Forty pounds of silk at the lowest cash price, is *now* worth two hundred dollars; which makes the following result:

40 lbs. of silk, at $5 per lb.		$200 00
Labor and board	$80 00	
Spinnig	34 00	114 00
Which makes the nett proceeds of one one acre		$86 00

"The principal part of the labor may be performed by women and children. But where the business is carrid on to any considerable extent, it is considered more profitable to employ some men for the last period of the worms.

The above calculation is made upon full grown trees.

The prices at the lowest cash prices."

So that the produce of an acre would be $200, and the profit $86, That I think would be good farming. Here let it be remarked that a very large amount in value of silk, is used in the simple form of sewing-silk—the manufacture of which is extremely simple. There is no information possessed by the Treasury Department, enabling it to state what proportion of the Ten Millions of Dollars of the article imported is sewing-silk; but from several calculations and estimates made, it is presumed to exceed a million of dollars, and must every year increase. Silk, in other simple forms, is also exsively consumed. It is not necessary, therefore, to presume that intricate and costly manufactures of silk should be introduced here to ensure a market for twenty years to come. It should, moreover, be considered that the raw silk will always find a ready market in England, all the raw material for her extensive manufactories being imported.

Then for wines. According to the very fair account of Mr. Eichelberger's Vineyard, given us in the York Recorder, it appears that four acres the 5th year, produced 30 barrels wine—the 6th and 7th year, 21 barrels—this year the produce is estimated at 60 barrels. But we will take the actual prodnce of the 5th. 6th, and 7th years, 72 barrels—30 gallons to a barrel, would be 2160 gallons.

3)2160 gallons,

720 average number of gallons a year for the four acres.

4)720

180 gallons for each acre.

Worth - - - - - -	$180
Add for grapes sold, - - - - -	15
for Cuttings, - - - - -	5
Would give per year, per acre, - - - -	$200

It must be remembered, too, that about sixty dollars worth of grapes have been sold.

"The wine is now selling at one dollar per gallon."

From which it would appear that the average value of the produce of an acre in vineyard would be the same as that of the mulberry, $200.

In this statement it has not been our intention to exaggerate in the least.

Our plan, then, is, first, That every Farmer who can see his way clear to do so, put out five acres in an hundred—one half in the Italian mulberry, and one half in the grape, and try fairly the experiment.

And second, that several companies be formed to enter upon the business extensively. Say one, to purchase in some part of the county where land is cheap—

200 acres, at 20 dollars, - - - -	$4,000

20 dollars an acre for grape and mulberry cuttings or

shoots, and setting out,		4,000
Interest and labor for three years, when it will begin to be productive, wine press, house in which to feed the worms, &c.	$2,000	
Contingencies,	2,000	
		4000
		$12,000

4th year pay all expenses, interest, and replace any roots which may have died.

5th year produce per acre,	$ 50,
6th	100,
7th	200,

Of which $80 per acre or $16,000 clear profit, paying the whole purchase money, and leaving a most valuable and productive property.

Archibald Stephenson tells us that, in France, those who shewed him the mulberry trees, "assured him that a good many of the largest of them brought a return to the farmer's family of a Louis'd'or, each of them, yearly. That is, twenty shillings sterling, or $4 67 cents each, merely for the leaves of the tree, which are sold to silk raisers to feed their worms. Why would they not be as profitable here? How many full grown trees would stand, and thrive on an acre? Of the vine, 800 will flourish in perfection on an acre. A gentleman of intelligence said to the writer of this, that he esteems every bearing vine certainly worth a dollar.

The greatest difficulty we meet with is, that, in the most sober, and subdued, and moderate calculation we can make, the product increases too fast—we grow rich too rapidly.

But all these calculations must be taken with considerable allowance. We should be truly sorry to be the means of leading any one into any expensive acheme, or involving project: but, believing as we do, most honestly, that every acre of land in the county, now worth twenty dollars, may be made worth a hundred, by the culture of the silk and the vine, we have felt it our duty to call public attention to the matter, that it may become a subject of thought, of conversation—of calculation. The intelligent public will examine the matter for themselves.

In the mean time, where the white mulberry exists, we entreat that they may be preserved; that cuttings may be taken in as great numbers as possible, to be set out next Spring. We know the Italian Mulberry flourishes well here. It has been tried. We know excellent silks may be made here, for we have had the pleasure to see dresses, or specimens of dresses, still beautiful and fine, made thirty or forty years ago in this county. If we could live to see Chester county producing half a million of dollars worth of silk, and as much in wine, without diminishing in value her other products—verily we could die in peace, and would have our remains deposited beneath a wide spreading mulberry, the branches of which should bend with the mantling vine, hung with clusters of delicious grapes.

PROJECTOR.

SENATE OF THE UNITED STATES.

MARCH, 21, 1826.

MR. FINDLAY, from the Committee on Agriculture, to whom was referred the Memorials of a number of Agriculturists in Pennsylvania. & the court, Grand Jury and Bar of Franklin county, in the same state, praying that the importation of foreign spirits may be prohibited, or the duties thereon increased, so as they may in their operation, be nearly tantamount to an entire prohibition, made the following

REPORT:

That the subject embraced in the memorials, appears to involve important interests, which deserve the attentive consideration of those who are entrusted with the guardianship of the public prosperity. Whatever partiality may be felt by the Representatives of different States, for those interests which are especially committed to their care, there is a higher obligation upon each, to guard, with scrupulous attention, the interests of the whole community; the great purposes for the establishment of this government having been to promote, within its constitutional sphere, the common defence and general welfare. It is impossible that any measure of practical utility, which is incompatible with the general good, can be justified upon the principles that established our Federal compact; as in the simplest form of government, each individual surrenders a portion of his natural liberty to the society he joins; for the sake of securing the higher advantages derived from its protection; so in a compact of States, each must agree to forego a portion of those privileges, which they might have possessed in a state of unqualified sovereignty, for the sake of the common protection and general interests. It may be further observed, that any association or compact, from the pettiest corporation to the most enlarged organization of political government, having its origin in that first law of nature, self preservation, must be calculated, as well as intended, to promote the common interest, being the aggregate of all the particular interests, each must be taken into consideration in important measures of legislation, and whenever any one of the particular interest can be advanced without prejudice to the other, there cannot be doubt as to the duty of the government.

The proposition contained in the memorial, appears clearly to belong to this class of cases; and it becomes; therefore unnecessary to determine, by any developement of first principles, even if that were practicable, how far governments might safely go, to promote any one of its particular interests at the expense of others.

The particular interests of the United States admit of a very natural and obvious division into three classes, which is adopted by universal consent for their designation, viz: the Agricultural, Manufacturing, and Commercial; these predominate in different sections of the Union, according to their peculiarities of soil, climate and position; and it seems now to be generally conceded; that the true policy of the government requires that its fostering care should be extended to all. It will readily be granted, that the agricultural interests stands foremost in importance, and that it is of the utmost consequence for every nation which has a capacity for agriculture, to take all possible care that it shall not languish. In the United States, the Agricultural interests admits of a division; which is es-

sential to the correct understanding of a subject now under consideration. Our great Agricultural staples are *small grain, cotton and tobacco*; and it so happens that the regions of country adapted to the growth of cotton and tobacco; are also more or less capable of growing small grain; the people of those sections therefore, derive an important advantage from being able to accommodate their productions to the fluctuations of the demand for them in foreign markets, and are, consequently, less exposed to the depressions that will be occasionally felt in those regions which have a less diversified capacity of production; hence arises this difference in our agricultural interests. All that portion of our country which is adapted only to the production of foreign bread stuffs, being dependent on the foreign demand for a single production, is liable to a serious depression of its productive industry, while no inconvenience may be felt where the dependence is upon a demand for either of several products.

In addition to this advantage, it may be observed, that the growers of cotton and tobacco have, from peculiar causes, the exclusive benefit of the home market for their products, while foreign spirits are every where introduced on the seaboard, and penetrate far into the country, to the exclusion of the only form of the staples of the grain region, that could be made to bear the expense of transportation from the interior.

Your committee would briefly advert to the state of the foriegn market, for the products of the grain growing states; and also to that for the products of the cotton and tobacco region, in illustration of the declining state of the former, and the increasing prosperity of the latte.

In three years commencing on the 1st of October, 1802, and ending on the 20th of September, 1805, the annual average of flour exported, was 966,000 barrels. The annual average of the same article exported in three years, commencing on the 1st of October, 1821, and ending on the 30th September 1824, was 800,500 barrels. The annual average value of flour, Indian and rye meal, ship bread and small grain exported in the three years last mentioned, was collectively $6,500,000.

The annual average value of cotton and tobacco exported in the three years first above mentioned, was 9,000,000; and the annual average value of those articles exported in three years ending on the 30th of September, 1824, was $28,000.000 —These statements, extracted from official documents, though made in round numbers, sufficiently approximate to correctness to prove that the foreign demand for cotton and tobacco, has rapidly and vastly increased to the great advantage of our country. They also clearly demonstrate the declension of the foreign demand for bread stuffs, and that the agricultural industry of the region which is only adapted to the production of small grain, must have suffered, and are suffering alarming discouragements; and, if it be in the power of the government, there can surely be no want of motive to provide a remedy. A constant and a profitable demand for agricultural products, will alone insure at all times, an abundant supply, than which nothing

can more effectually give life and activity to commerce and manufacturers. But, as the foreign demand for our surplus bread stuffs, is so limited, as scarcely to leave any motive for producing a surplus, unless an increased demand shall be found in the home market, there must be inevitably a very great and serious diminution of the quantity produced.

It rarely indeed happens, that the people of any country are so circumstanced, as not to have the almost exclusive advantage of their home market, for their agricultural products; and hence it is that legislative provisions on this subject are less frequent, than those intended to promote the interests of commerce and manufactures; but when such an event does occur, it becomes highly important that its consequences should be guarded against.

If the enlarged system of internal improvement, contemplated by several of the states, shall be carried into effect, so as to enable the agriculturists of the interior, to send their bread stuffs, with little expense for transportation, to the commercial towns of the seaboard, still there will be, under any circumstances, a great inequality in the rewards for agricultural labour; and our immense capacity of the interior country to produce will be unimproved, and great resources of individual and national wealth remain wholly dormant, so that, whether we regard the peculiar situation of the foreign market for bread stuffs at this time, or the actual condition of our agriculture in a large portion of the grain regions, under any change of the foreign market that could take place, there is still an adequate motive for securing the benefits of the home market for the growers of grain. This motive is strengthened by the consideration, that the foreign demand for bread stuffs is not under our control. These articles of first necessity, unlike those the demand for which may be increased or diminished, by the fluctuations of fashion, are limited by the natural wants of man, and for which the foreign markets cannot be extended, either by the efforts of the government, or by the most enlightened commercial enterprize.

The petition of the memorialists, that the agriculturists of the grain region largely contribute to the support and protection of commerce, and that it affords them a very limited market for their products, is sustained by the foregoing statements, and others that shall be noticed. To present a fuller view of the sentiments on this part of the subject, the following is extracted from their memorial:

"Without intending to reflect censure on your predecessors, we can with truth state, that great and regular attention have always been given by Congress to foreign commerce, marked by numerous and large appropriations of the public money to objects for the promotion of its prosperity. Light houses have been erected for its accommodation, and a navy created and maintained at a vast, if not extravagant expense to the nation, for its protection, while nothing has been done directly, for the interests of the agriculturists, in this and the other grain growing states. They have it is true, derived some benefit from the late tariff, which might be increased by an extension of the system. The benefits which they indirectly receive from foreign commerce, are more than counterbalanced by the

proportional part of the expense which they contribute to maintain it, as but a small part of their products find a market thro' the channel or agency of this commerce; still they do not expect or require its entire abandonment, as it may be advantageous if not indispensable to other sections of the Union. It is, however, an incontrovertible fact, that the part of this commerce which imports articles from other countries that compete with and frequently supersede the use of the products of their own soil and labor, either in their raw or manufactured state, is highly injurious to their interests.—This would not be the effect if other countries did not impose restrictions, and adopt prohibitions for the protection of their internal industry, and which effect ought to be removed by countervailing restrictions and probibitions. Under existing circumstances, therefore, they consider this part of the foreign commerce as a heavy grievance; which is heightened by the reflection that they, as being part owners, as it were, of the National Treasury, have to contribute their share of the expenditures, which uphold and protect it."

The annual expenses of maintaining the Navy, together with those for Ambassadors, Consuls, &c. all for the purposes of foreign commerce, amount to about one half of the value of bread stuffs annually exported. To which might be added, the expenses of the late war with Great Britain, a consequence of this commerce, & from which future wars are more likely to arise than from any other source.

There is no certain data from which the number of agriculturists, exclusively engaged in growing small grain, can be accurately ascertained; but a general view of that portion of our country not calculated for the growing of cotton and tobacco, would justify the inference, that they are more than one half of the agriculturists in the Union, and perhaps one half of our federal numbers; but, whatever their relative number may be to that of the whole population, they must necessarily contribute nearly in that proportion to the expenses of upholding this commerce, from which they derive comparatively small advantages.

These circumstances present a strong claim on the Government to accede to the proposition of the memorialists, for the extension of the home market for their agricultural products. Besides, it is generally admitted, that this market, for the extent to which it may be carried for any of the products of the soil, either in their crude or manufactured state, is more important and more certain than a foreign one. The latter, as we have often experienced, is liable to fluctuations, and frequently depends on the caprice or good will of foreign nations, while the former depends much upon our own internal regulations. Sound policy therefore seems to dictate that such articles as our country produces, or has the capacity to produce, should receive governmental protection from foreign competition, which, though it might occasion a temporary inconvenience to some sections of the Union, they ultimately would be more than remunerated by the reduction of the price and improved quality of the articles arising from the home competition, that the protection would afford.

Agriculture, Manufactures and Commerce, have successfully grown up and flourished in other countries, under a system of rigorous exclusion, or high taxation on foreign articles, and the beneficial effects of the principle has, in many cases been experienced in our own, as in the growing of cotton, and particulary in the coarse manufacture of the article.

It may, however, be alleged that the duty on imported cotton was imposed for the purpose of revenue, and not for the encouragement or protection of the growers of the article, which, were it conceded would not affect the principle, as it is the consequences of a measure, and not the motive by which it was adopted, that tests its utility. It is a fact, as important as it is notorious, that, previous to the imposition of this duty, we did not grow a sufficient quantity of cotton for domestic supply; the inference, therefore is irresistable, that this protection was the most efficient cause of there now being not only an abundance for this supply, at a reduced price. but the surplus exceeds in value any of our articles of export. The same result is witnessed as to the coarse manufactures of it, both as to supply and reduction of price, and which have also become articles of export. The success of our ship building and navigation, the effects of discriminating duties, is, it is believed, unparalleled in the annals of the world. It ought not to be a question in this system of protection, what proportion the duty shall bear to the value of the article on which it may be imposed; the only principle to be observed is, that it be commensurate to the object, as it has been in those cases. It is probable, in those cases, the growers, the manufacturers, the ship-builders and navigators, could now safely dispense with the whole or part of the protection which has been afforded to those branches of industry, but for which they could not have commenced the respective pursuits with profit to themselves, or advantage to their country.

As similar causes by a party of reasoning, will produce similar effects, it is fair to infer, that the principle may be successfully applied to domestic spirits, and whith equal justice requir s should not be withheld. It is true that duties have been imposed on all kinds of imported spirits, whether for the purpose of revenue or protection, is unnecessary to inquire, as it is sufficient to know the fact, that they are too low to afford the efficient protection sought for by the memorialists and which has been given to other domestic articles.

By the official reports of the Treasury Department, the annual average of imported spirits for three years ending on the 30th of September, 1824, consumed in the United States, may be stated in round numbers at 4,500,000 gallons. Hence it is evident that the present duties are an inadequate protection, and their augmentation, or an express prohibition of the importation of spirits, is necessary to effect the object.

The substitutiou of domestic for foreign spirits annually consumed, would, in the grain region, raise the value of improved land by the increased demand for its products, promote the profits of

agriculture, and add to the national wealth the amount of the first cost of foreign spirits, the annual average value of which, for three years ending on the 20th September, 1824, was $2,128,100; and also the expenses of their importation, which together, amount to more than one third of the sum which we annually receive from foreign markets for bread stuffs of every description.

It is worthy of remark, that, as more than five sixths of the imported spirits are distilled from other materials than grain, the diminution of the consumption could not affect the foreign market, in any material degree, for bread stuffs. The contemplated extension of the home market would stimulate the industry of the grain growers, increase the competition, and excite emulation among the distillers in improving the quality of domestic spirits so that they might soon obtain a preference for home consumption and become a profitable export.

These facts and reflections forcibly suggest the policy of this extension, if it can be effected consistently with the interest of other pursuits of industry, and which is not expected on any other condition, as would appear from the following extract from one of the memorials.

In answer to an anticipated objection, "that the measure might militate against the interests of other portions of the Union," the memorialists state:

"That it could not possibly affect those as much as the part of commerce alluded to, does the interests of the grain States; and as the constitution is the offspring of mutual concession, it is expected to be administered in the same spirit, by removing any pressure which may bear peculiarly hard on particular districts, so that, by consulting the various interests of the different parts, the welfare of the whole may be promoted."

It has been shown, that the advantages which the agriculturists of the grain region, derive from the foreign market for their products, do not correspond with their proportion of the expense of protecting the commerce through which the market is obtained, & it remains to be inquired whether any injury would be done by the adoption of the measure under consideration, to the commercial, manufacturing, or other branches of the agricultural interests of our country.

The unlimited capacity of the country to supply the demand, will be a constant security against any material advance of the price of spirits, if that could be an objection.

The stimulus which the measure would give to the industry of the grain region, must be, to increase, in the same proportion, their ability to purchase and consume, not only the products of other regions in the United States, but also a greater quantity of those foreign articles from which the revenues of the government are derived. In case it should, in any degree, diminish foreign commerce, it would promote the commerce between the states, and increase our coasting trade. It is not, therefore, easy to perceive that it would be productive of injury to either of those interests.—If however, any should arise, they must appear trivial, when com-

pared with the positive good that would result from the measure to the people of the grain region.

Still, if a more attentive consideration of this suject should lead to the conclusion, that any advantage would occur to the commercial and manufacturing interests by confining the prohibition to consumption only, to which opinion part of your committee strongly inclines, believing that such regulations may be adopted as will secure the great purpose of the prohibition, without interfering to prevent importations of foreign spirits for reshipment, there could not be any well founded objection to such a modification.

The net annual average revenue, arising from foreign distilled spirits, for the three years ending on the 31st of December, 1824, was $2,034,965. If, therefore, it should be apprehended that their total and sudden prohibition would produce a temporary diminution of the revenue that would be inconvenient to the treasury, that consequence might be obviated by giving the prohibition a prospective operation, and in the mean time, the imposition of a very moderate duty upon domestic spirits, would supply the loss; which duty might afterwards be repealed or continued as the condition of the treasury might require. The advantage derived to the growers of the grain and the manufacturers of domestic spirits, from the exclusive possession of the home market, would be so much greater than the amount of a duty, equivalent to that which is now received from the imposts on foreign spirits, that it would neither be felt or complained of, if the mode of its collection should be free from the odious features of an European excise.

In the year 1815, there were 11,149,169 gallons of domestic spirits distilled, subject to specific duties. The number of gallons which the destilleries yielded, in which the duty was paid or the capacity of the stills employed therein, cannot be ascertained with precision, but taking the proportion which this duty bears to the aggregate revenue that accrued from domestic spirits, as a basis of calculation, they are found to be upwards of 3,000,000. The quantity therefore distilled in the year, may be safely stated to have been, at least, 14,500,000 gallons, more than the nine-tenths of which were from domestic materials. The revenue which accrued thereon, was $3,232,806. If to the number of gallons, be added foreign spirits now annually consumed in the United States, viz: 4,500,000, the place of which would, in case of prohibition, be supplied by a like quantity of domestic spirits, it will be found that a small duty per gallon will be equal to the whole revenue now derived from imposts on foreign spirits,, which offers an ample remedy for every possible inconvenience to the treasury, that could, upon any supposition, result from the measure proposed.

It would therefore, appear from the views which have been taken of the subject, that the adoption of the measure would be highly beneficial to a very numerous class of citizens whose pursuits have claims to the fostering care of the government, at least equal to those of any other, and that it could not be peculiarly detrimental to any, nor incompatible with the general interests, or produce any inconvenience to the treasury.

The majority of the committee, however, being opposed to an express prohibition of the importation of foreign spirits, and as a bill cannot, constitutionally, originate in the Senate to increase the duties thereon, they have directed their chairman to report the following resolution :

Resolved, That the committee be discharged from the further consideration of the memorials.

FROM THE FRANKLIN JOURNAL.

Observations on the production of Sugar, as an appendage to common farming.

Sir.—You in common with every man of observation, must have noticed the alterations, which within a short period of time, have taken place in the circumstances and habits of society. Many articles, which, a few years since, were considered as luxuries, have now taken their station among the necessaries of life. If these are to be enjoyed, we must pursue the course which is necessary to their attainment. Labor is the only means which nature has given to man for the procurement of either necessaries, comfort, or luxuries; and by her laws, this labor is productive, in proportion to the skill by which it is directed. The fabrics, worn by our sires, might still have answered the purposes of their descendants; but the improvements of Arkwright, Watt, and others, have so far facilitated the production of cloth, that what fifty years ago, would have been considered as articles of luxury in dress, are now in common use, and viewed as absolutely necessary. This change, in the habits of society, is quite as remarkable in our food, as it is in our dress, our furniture, and other modes of living.

I wish, at present, to call your attention to the extraordinary increase of the consumption of sugar, which, in many instances, now forms a part of breakfast, dinner, and supper, even in the families of the poor. It is no uncommon thing with their dinners; and they argue, that, as a beverage, it is preferable to beer or spirits, and equally cheap. To discuss the merits of this question, is not the object I have in view, as any thing that either you or I could say would have but little influence upon the habits of society; now a days a pauper in the alms house gets tea once or twice a day. This a century ago, was a luxury which had to be secured to great ladies, by a clause in their marriage contract.

The revolution is still going forward, which has brought people to live in cleaner houses; and, in its progress, it will undoubtedly cause some things heretofore considered as necessary, to be entirely relished, or very sparingly used, because they will be found to be incompatible with the style and quality of other things about us. Of this class we may instance tobacco, as its use in chewing, smoking and snuffing, do not suit the cleanly habits, and the good furniture, which refinement is introducing into modern use. Elegant carpets, well papered rooms, &c. are every day lessening the consumption of tobacco. The honors so well earned by Arkwright, by Watt, by Fulton, and by Whitney, will be equally due to the benefactor for the human race who shall introdnce into our style of

living something that will be a remedy for the consumption of alcohol. Perhaps increasing the quantity, and lessning the price, of sugar, may, in some degree, aid in the discomfiture of the wretched habit, and obviate the evils consequent on the practice of drinking intoxicating liquors. Should we succeed in discovering some vegetable, easily cultivated, and yielding a considerable portion of sugar, it may be the means of compensating the tobacco planter for the loss of his customers. Those engaged in this branch of tillage, should begin to look around them for some other employment for their laborers and their lands. The current is now setting against the use of tobacco, and when once it is considered as disreputable to employ it, were it to be given away, more of it would be wasted, but not more used than now is, except those who are poor, dirty, and ill-lodged, like the peasantry of Ireland and Germany.

It is a general, but probably an incorrect opinion, that the sugar cane, *saccharum officinarum*, and a tropical climate, are our sole dependence for an abundant supply of sugar. It is true that sunshine and heat are essential to the production of vegetable oils, salts, raisins, &c. but it is equally true that all those are produced throout the whole temperate zone; and would it not be arrogant to say that every discovery and improvement of which agriculture is succeptible, has been already made? Agriculture, like all other arts, when united to the sciences, will give results of which we, at present, cannot form any conjecture, and I am convinced that the time will come when sugar will be obtained from plants not at present cultivated for that purpose, and capable of being raised throughout an extent of country not now supposed posssible.

These observations were suggested by the following circumstance: late last Fall there had been some sharp frosty nights, succeeded by hot sun shiny days; on one of these I noticed a vast number of flies, of various kinds, swarming about some bundles of broom corn, *holcus sorghum*, that had been recently cut down; it was evident that they were allured by something in which they were much interested. I at first imagined that the heat and shelter, afforded by the stalks had brought them together; but upon examination, no remarkable degree of warmth was perceptible; heat and shelter, therefore, could not be their object; food next occurred as the subject of their attention, and upon carefully examining the stems, I found that on twisting them hard, a table spoo ful of remarkably sweet juice could be pressed from a single joint, near the bottom of the plant; this solved the inquiry respecting the object of the flies, and perhaps may lead to results of greater importance.

Cuttings from two or three of the lower joints were saved, for the purpose of having them completely pressed: but this. on account of their ripe state, their hard canelike fibres, and my want of proper means, was found to be a difficult task. This delayed, for a few days, the completion of the experiment, and during this period, it waa found that the juice in the plant, had undergone the acetious and putrefactive fermentations, which prevented the ascertaining the quantity and quality of the sugar, by evaporation and crystalization, as had been determined.

Considering that sugar is an article in increasing demand; that the daily improvements making in the old branches of agriculture are reducing the profits of the farmer to a minimum, and that sugar, in smaller or larger quantities, is found in many vegetables; would it not be wise in our agriculturists throughout the Union, to make experiments upon the cultivation of sugar? The quantity contained in broom corn, convinces me that this plant is of sufficient consequence to command their attention, and to procure for it a general and careful trial. The thing is deserving of experiment, to the north as well as to the south.—The plant grows in every State in the Union. It is probable that the advantage will be with those who have most heat and sunshine, provided the people are equally industrious, and have this industry under guidance of equal skill & intelligence; for, in all comparisons of this kind, these must be taken into the calculation—as in many instances they have power to more than compensate for some deficiency in natural advantages.

The improvement and increase of all useful productions, are objects of national importance; and perhaps, the editors of newspapers may think these hints worth disseminating. In this case, I hope that they will also aid in making your useful repository more generally known, by giving credit to the Franklin Journal of Philadelphia. Yours, &c. SACCHARUM.

AGRICULTURE OF BRABANT.

The Agricultural section the "Bulletin Universel des sciences," for April, 1825, gives a description of the cultivation, rural economy, &c. of that part of Brabant, in the Netherlands, which is called Campine or Kempen, from which the following has been translated :—

The Campine is about 30 leagues long, and 25 broad, and is a part of that vast extent of sandy soil, which covers Holland, the north of Germany, and part of Poland. The country is level, and much of the soil, we infer from the description, is similar to that of our pine plains: there are also large tracts of uncultivated land called heaths. The inhabitants are industrious and economical, and make the most of every thing; nothing is lost, it is said, but *smoke* —The farms are from 75 to 90 acres each, and more than half the land is arable. On a farm of this extent, they keep commonly 15 or 20 cows, a yoke of oxen, two horses, three or four heifers, four calves, four hogs, and from forty to sixty sheep. This is done by manuring abundantly, and not using fallows; the farmers direct their principal attention to making manure, and it is calculated that 2000 loads of 12 or 1300 pounds each, are made on farms of 60 to 70 acres. What will American farmers say to this? Rye is an important object of culture in the Campine; they cultivate also buckwheat, turnips, carrots, potatoes, rapeseed, beans, a species of grass called spurry, flax, hemp, some wheat, &c. The greater part of the ploughed and grass lands are manured every year; the proportion for rye is about 40 loads of 10 or 11 cwt. each to an acre. The stables of the Brabanters are very large, a part of the space being employed for the preparation of manure.—The stables have two

great doors, and the teams for carrying off the manure, can go in and out without difficulty.

The composts are made in a trench in the stable. The bottom is sand : this is covered with a layer of turf herbage from the heaths, then the odure of the cows, turf, and all kinds of filth are collected and thrown in, special care being taken that all the urine should enter into the compost. The rye straw is eaten by the cattle, and the farmers collect materials for litter from the heaths. The editor of the Bulletin, remarks that the Brabant method of making dung hills or composts in the stable is a bad one; he says this operation should be carried on under sheds. Wood is not plenty in Brabant, but turf or peat is abundant, and is the principal fuel. Butter is one of the most important products of the country : the milk is prepared with great care and neatness, and in making butter the whole milk is churned ; the vessel used is simllar to one of our churns. This butter keeps well and is sought after for exportation. The cows and other horned cattle are kept in the stable almost all the year, where they are fed with carrots, turnips, potatoes, buckwheat, rye, oats, hay, straw, &c. When they are taken to the pastures, they are fastened to stakes by cords, and after the grass within their reach is consumed, the stakes are removed. The sheep are kept on the heaths in the summer.

The encyclopædia remarks, that "the agriculture which is com mon to the country is in as high perfection in Brabant as in England, and the best parts of England, are even sometimes surpassed.

MANAGEMENT OF BEES IN RUSSIA

Most of the bee stages are in a forest where the insects sponta neously enter the hives prepared there for them by the people. To this end the Baskirs look out for the strongest and straightest trees of the hardest kinds of timber, on which at the height of four, five and more fathom above the ground, they construct the bee house, by hallowing out the trunk plain and smooth with a tool resembling a chissel, closing the aperture with a board, in which are lett little holes for the bees to enter and come out at. The dexterity with which the Baskirs perform this work and climb up the loftiest and smoothest trees is indeed suprising. A sharp hatchet and a common rope is all they require. The workman places himself against the tree, fastens the rope round his body and the trunk, makes with his hatchet at a certain height a notch in the tree, and setting his feet against the tree, springs, by the assistance of the rope, up to that height, whence he makes another notch as high as he can reach, and proceeds in this manner till he has attained the proper height. Here, where he must tarry longer, he makes his step more commodious and resting in the rope performs his necessary work, for which he has brought up the tools in his girdle. Below the bee house all the branches are carefully cut away, to render the tree more difficult for the bears to climb. Notwithstanding which these animals, still pretty frequent in the Uralian forests, are the most dangerous enemies to the culture of bees ; and therefore arms and other means are employed against them.

The most usual of these is the contrivance of furnishing the whole trunk of the tree with knives or iron spikes crooked upwards, which the bear indeed in clambering up is cunning enough to avoid with great dexterity, but in sliding downwards they generally cost him his life; yet there have been instances, that old thieves of this species even in climbing up have loosened and destroyed these with their paws. With surer success a thick block of wood is employed, by being suspended before the aperture to the hive, which as often as the bear, with interesting fury, throws from him, swings back and hits him on the head by rebounding from the tree, at length irritated to the utmost, he increases the violence of his efforts and at last exhausted by rage and exertions, he falls upon the spikes that are planted on the ground to receive him. But the most ingenious method is a trap of the simplest kind, by a square board with a rope at each corner united at the top (like a large scale which we see in a whole sale shop,) and fastened to a branch in such a manner that the board is on a level, with the door of the hive. The bear, finding his seat so conveniently placed to receive him, gets into it and begins tugging at the slight fastening to the trunk of the tree, and hinders him from getting at the hive; having loosed the catch, the board swings off with him to its perpendicular direction on the branch to which it is suspended, where he is either obliged to sit in the air till his purser arrives to shoot him, or to throw himself down on the pointed stakes that are planted round the foot of the tree.—Another foe to the bee hive is the wood pecker, which is kept off by thorns and twigs tied round the hive.

PAINTING ON PORCELAIN.

It is about sixty years since the plain cream coloured ware of Mr. Wedgwood was introduced. At that time this unadorned and simple article was thought sufficient for every purpose where porcelain was not employed; and the neatness and cleanliness of this unadorned and simple article gave it such a preference, that her late majesty allowed it to be calld QUEEN'S WARE; but when a demand arose for more expensive services of pottery, recourse was had to the pencil. From that period a great number of artists have been constantly employed in painting on earthenware as well as porcelain.

It must not, however, be imagined, that painting on earthenware was a new invention. The paintings of the ancients, of this kind, are valuable. The Marquis Marcello Venuti, in his description of the curiosities found in the ancient city of Heraclea, speaks of one representing a muse crowned with laurel, with a musical iustrument on her shoulders, which was found in one of the subterranean cavities; and is described as being in the possession of one of the principal supporters of the Tuscan Academy.

The Romans of the first century, however, were ignorant of the metallic fluxes, with which the moderns fix and vitrify the coverings of their pottery. Certain colours and a composition which the potters of that day employed for glazing, have been found in

the shop of a colour merchant, in one of the streets of ancient Pompeia, which give satisfactory evidence of this.

To return to the consideration of the paintings on English earthenware, it must be observed, that the variety of effect is produced by means of the different metallic oxides, each of which affords a different colour, and these colors are again multiplied by such mixtures of two or more of the oxidized metals, as experience has shown to be useful.

In employing these colours, the ground oxide is first mixed with a prepared flux, which is also reduced to an impalpable powder, and then this mixture is well incorporated with gum water, the acid of tar, oil of turpentine, or some other essential oil. The fluids are used merely to lay on the colour, for it is necessary that whatever oil is employed, it should evaporate immediately and entirely.

The preparations which are commonly used, are the metallic oxides, and their combinations with acids. Thus, cobalt yields a blue; antimony and silver give yellows and orange, platinum a silver colour, gold, violet and purple; copper the greens; while the reds, the browns, and the blacks are derived from iron.

The oxide of cobalt employed in pottery is usually prepared from zaffre; which is an expensive article, imported from Saxony, tho' a few years ago it was procured from Cornwall. For preparing antimonial yellows, the crude antimony is first calcined with four times its weight of nitre, and then mixed with a certain portion of vitrified lead. Oxide of gold, precipitated by copper, make the finest purple. A small portion of copper mixed with oxide of iron, greatly increases the intensity of the blacks on earthenware. It is here necessary to remark, that in *painting* on the *biscuit** no oil is used; the colors are mixed with water only. For certain purposes, the painting is performed on the glaze, as some colors would be injured; and others destroyed by the heat of the gloss-oven. Thus, when iron is employed to produce black or brown, the painting is always done upon the glaze, the ware is then finished in an enamelling oven, about 6 degrees of Wedgwood's Pyrometer.

Lustre ware is produced by being covered entirely on the exterior, as is the case when the sulphuret of antimony is employed for producing a common kind of yellow ware.

Gold lustre is effected by means of gold, and silver lustre by the oxide of Platinum

For preparing the lustre ware, the oxide of whatever kind it may be, is mixed with one of the essential oils, and in that state is brushed upon the surface after the ware is glazed. For gold lustre the ware is made of a red clay, which, when burnt and glazed, shows so much of its colour through the covering of gold, as is sufficient to give the goods that peculiar brown tint, which is always observable on this singular kind of pottery. When the metalic oxide has been applied to the surface of the goods, they are carried to an enamelling oven where the heat dissipates the oxygen, and restores

* Biscuit is a term used in potteries to denote the ware after it is once baked, and is unglazed.

those precious metals to their metalic state. I cannot say quite to their primitive brilliancy, because this is often injured by the fluid menstruum employed in the operation. The great difference which there is in the appearance of this ware, especially that which is covered with platinum, can only be thus accounted for. Some of it looks like silver, while from other manufactories, the article looks like steel.

For *gilding* porcelain the metal is used in its metalic state. To procure it in a pulverized form, it is first dissolved in aqua regia, and then the acid is driven off by heat, and the gold remains; this is then mixed with borax and gum water, and applied in that state to the goods; after this it is be baked, and finished by burnishing.

Blue Painting. The potters of England have derived great advantage from the introduction of the printing press. The use of this valuable machine, which is comparatively of late date, has enabled these manufacturers to produce a greater variety of patterns, and of neater execution, than could possibly have been done, at the same expense, by the pencil. As this is a curious branch of business, it will be proper to describe it minutely.

The intended pattern is first printed with some metalic colour, chiefly oxide of cobalt, on what is called silver paper, and the colour is transferred from the paper to the surface of the porcelain.

This style of ware is a very successful imitation of the old blue porcelains of China, and of late years has been the means of extending the consumption of British pottery throughout Europe. The potters of China are totally unacquainted with the printing press, and consequently, all their designs are produced by the pencil alone.

This mode of imparting designs to the surface of porcelain, and which is known in the trade by the appellation of *Fine Paintings*, is managed in the following manner.

One man attends the press, which is similar to the common copper plate printing press; and as soon as he has applied the colour which is laid on the copper plate in the same manner which the copper plate printers apply the ink—he lays it upon a hot iron to thin the oil with which the colour is mixed.

The oil is a peculiar preparation of boiled linseed oil for this purpose. When the colour upon the plate is thus reduced to a proper consistence, a sheet of silver paper is laid over it, and passed through the press.

The oxide of cobalt is the only mineral employed for the blue, and is largely prepared in the Staffordshire Potteries. It sells from 30s to 60s the pound, according to its intensity and goodness. Indeed such improvements have been made in the manufactures of this colour that the Chinese potters are now supplied from England with all the cobalt they consume.

When the paper comes from the printing press, stamped with the required pattern, it is delivered, while wet with the colour, to a girl; who cuts off the superfluous paper with a pair of scissors, and passes it to another girl who immediately applies it to a piece of biscuit ware, and then hands it to a third, who fixes it more firmly by rubbing it hard with a piece of flannel tightly rolled up in the

form of a short cylinder. The design of this hard rubbing is to force the colour into the pores of the ware. When the papers thus applied have laid on for about an hour, the colour is generally found to be sufficiently fixed to admit of their being detached. This is effected by putting the articles into a tub of water, where the paper soon becomes soft enough to allow its being rubbed off, leaving the full impression of the pattern upon the biscuit. The paper having been removed the ware is suffered to stand dry, after which it is put in an oven at a low heat, for the purpose of dissipating the oil, and preparing it to receive the glaze. It is obvious that a transparent glaze is necessary to give full effect to the brilliant colour of the cobalt. A little of the oxide is put in the glaze to subdue any lurking tint which might impair its lustre.

An idea occurs to me respecting printed ware, which although it may appear fanciful, will I doubt not, be some time or other realized. I refer to the possibility of printing two or three colours at once. The Lancashire calico printers employ a machine which imparts two or three distinct colours at one impression. The application of the same principle would be of immense importance to manufacturers of earthenware and porcelain.

ISLAND OF CUBA.

The last number of the Boston Monthly Magazine, contains the first of a series of letters from Cuba, written, says the editor, by a person of great observation and acquirements. This letter gives a sketch of the face of the country, magnitude, climate, soil, rivers, bays and harbours: the following is an extract.

That which most interested me when I first left the sea shore and came farther inland, was the beautiful appearance of the country. Even where there has been no cultivation, the luxuriant growth of the forest trees, the innumerable variety of indigenious fruits, the verdant appearance of the deep shaded vallies, interspersed with a thousand conic hills, covered with trees, clothed with all the beauty of your mildest spring, and intermingled with the richest of your autumnal fruits, present to the eye one of the most charming prospects in the world, and evince the abundance which nature here affords without labour or toil.

But it is not in aspect alone, that this island is delightful. The richness of the soil, and the salubrity of the climate, render it no less desirable to the lover of increasing wealth, than to the lover of nature. It lies as you well know, between the twentieth and twenty-third degrees of north latitude; the length is two hundred and twenty leagues, and the average breadth about twenty five leagues. The broadest part which is at Point Cabo de Cruz, is twenty five leagues; the narrowest which is from Havanna across to the other side is only fourteen. It must be observed, that these leagues, which are estimated at five thousand Spanish vars, are not equal to three full English miles; yet it gives the country nearly equal in extent to that of England *proper*, while its natural riches are far beyond those of that northern isle.

Although within the tropics, we never experience the extreme heat of Boston. I have never known the thermometer (Farenheits) over ninety, nor up to that but once, which was in May, 1820. The year is divided into two seasons—the wet and the dry. The wet season commonly begins in May, and continues till November. This is the period in which nature is regenerated from a long dearth of rain, and on which the planters hopes are fixed; if this season be favorable, he thinks little of the weather the rest of the year.

It has been calculated that seventy four inches of water fall annually in this island. But this is more than double what falls in St. Helena, and nearly *three* times what falls in London where it is said to rain all the time. It never rains "all the time" here. Our showers fall in such torrents, that one would think the bottles of heaven were *broken*, not unstopped; and come so suddenly, that even while the sun smiles on one side, you are deluged in rain on the other, before you have time to escape; and when you have just made up your mind to submit and stay within doors for a week, you behold the sky perfectly free from clouds, and as clear and brilliant as though it had not rained for a month. No calculation can be made during this period; and if you venture out when ever so fair, you must calculate to be caught, not in a shower, but in an overwhelming torrent. These heavy rains also destroy the roads—There is no moving with comfort either in carriages or on horseback; for the high way is neither passable to the former, nor is the latter practicable on account of the hourly deluge that will inundate both yourself and horse.—But if this season be unpleasant, that called the dry, and which lasts from November to May, is generally as much to be coveted as the other is to be avoided. December is, perhaps the most delightful month in the whole year; for at this time vegetation has not suffered from draught so as to change its verdant and blooming appearance, and many flowers, peculiar to this season, adorn and beautify the scene; particularly a great many varieties of the *convolvulas* and other climbing plants with which the tropics abound.

Every tree and every fence is now blooming with these climbers whose splendid appearance has lead me through many a rugged path, to ascertain what tree was in such magnificence of glory; but which in the end, I found was borrowed magnificence; borrowed from vines. Yet lovely as is this season is, the latter end of it—March and April—is extremely unpleasant.—It is then, nature here wears her most dreary aspect; it is then, the earth, the rocks, and the soil have imbibed their last degree of absorption, and vegetation endures its utmost degree of siccity. Even those occasional showers which have hitherto revived and animated nature, no longer shed their invigorating drops, but all is arid, dry, parched, and decaying.

The soil throughout this extensive island is, in general, of a superior quality.

We have always two crops of maize or Indian corn. The first is planted in May, and is fit to gather in September; yet is often

suffered to remain in the field until after a second is planted among it ; for you must remember we do not use the plough. The second is planted in September and October, and is gatherable in January. But small quantities may be seen in all seasons. There is seldom a time when green corn is not in the field.

The *climate* of this island is deservidly celebrated. In addition to our advantage of latitude, we have local causes which operate to render the climate of Cuba greatly superior to that of Charleston and Savannah on the continent, and to the Brahams, which are only a few degrees removed from our shores. While the two former are almost uninhabitable, and the latter so changeful, that their summers—even their nights are sultry unto suffocation ; and their winters requiring fires. Cuba never experiences either the insalubrity of the one, nor the inequality of the other. Our days are warm, but this warmth is uniform, and *alwvys* relieved by a sea breeze in the morning, and a land breeze in the evening ; so that we are not oppressed with heat, but a few hours, even in the hottest months, during the day; while the *nights* are invariably agreeable. The breeze which springs up by five o'clock, P. M. together with the train of clouds that follow the sun between the tropics, and the short duration of twilight, or brief reflection of his beams in this latitnde, all conspire to make evening cool and pleasant; and after our hottest days, we enjoy as cool and refreshing an evening, as can be desired. There is a mildness, a softness in our air, not to be described.

The same established degree of temperature in twenty one degrees north latitude, is very unlike that in forty two degrees, in reality, or when applied to *feeling*. The range of Fahenheit's thermometer, about a mile from the Bay of Mantanzas, in the shade for January, 1821, at twelve o'clock, was seventy six degrees, forty five minutes. The greatest in that month was eighty four degrees ; and the average for the month of July, was eighty five degrees, six minutes ; the greatest, eighty-eight degrees, and the least was sixty five degrees. The range in April, is usually about half way between January and July ; being in 1821, eighty two degrees. The weather in march is much the same as in January, excepting it is more windy, and every thing is dried.—The thermometer stands much the same. The variation of heat, as seen by the mercury, is small. Yet the refreshing rains of July render eighty four degrees much more bearable then, than in January. I have experienced that degree of cold as would have rendered a fire desirable. Our houses were constructed for heat, not for cold ; and that would lead us to feel the temperature of sixty degrees much more than you would. Besides, the air itself is different from yours. The thermometer at eighty-five, with you, is intolerable ; with us, we have a refreshing on such a day. There is, moreover, some property in our atmosphere, which I cannot explain, that will cause a rust or gangrene, in all metals, and spot all silks or other coloured goods, independent of the moisture of the climate. Even in February or the driest months, needles, scissors, and pins, will contract rust ; and that to a much greater degree, than in New

Orleans, where the climate is much more damp than in Cuba.

The Caninsar, which rather issues from, than empties into the Bay of Mantanzas, is a beautiful *creek*, into which two small streams empty, at a place called Embarcodera, about twelve miles from the bay; and up to which the stream, or creek is navigable for batteaux. This channel is about twenty rods wide, very deep, and perfectly sheltered by the high, overhanging cliffs, which stretch over from the bay, up to the landing; forming an unbroken chain upon each side, of high, almost perpendicular bluffs, that threaten the passengers with impending destruction. I have sailed up this creek in the hottest days, without a glimpse of the sun, for several miles. It is, I will venture to say, the most romantic and most sublime passage, than can be made in any river whatever.

To have a well of water, the depth must be one hundred and fifty feet. But when water is once found, it seldom fails afterwards. The expense of digging a well, is calculated at a thousand dollars, although from the nature of the soil, they do not require to be walled. The fewness of our springs, and consequently brooks, renders it extremely uncomfortable to the new planter, to do without a well, while the cost of making one is often a burthen he is unable to bear. I have known instances where, for months, a whole plantation of thirty or forty hands, had not a drop of water but what was brought three or four miles by hand; excepting an occasional hogshead caught in the unfrequent showers of the dry months.

But if our springs and rivulets be few, there is probably no country in the world, of the same extent, that has so many commodious harbors That of Havanna is already well known to the maratime world, as the most secure and capacious of any in the West Indies. The entrance is a narrow, very narrow channel, of twelve or fifteen hundred yards in length, which opens into a spacious basin, so broad and deep, that the whole British navy might ride there unobstructed, and so perfectly secure from storms and squalls, that they could not cast an anchor. Yet this is not the largest, if the most secure harbor upon the island. Nature has made the bay of Jagua, the southern part of the Villa Clara, almost as safe and protected, and at the same time more capacious. This bay is said to be no less than twelve leagues broad, and has a deep channel, without rocks or shoals, and is interspered with islands, which enable seamen to careen their vessels whenever they require it. There are two harbours. The outer one is so sheltered by the land on each side, as to be safe; while the inner one is almost surrounded; leaving, however, an entrance wider than that to Havanna. This harbour is the port of entry (the *southern* port) to the rapidly increasing district of Villa Clara. Were it upon the North coast, this port would soon rival Havanna; for its trade is supported by a fine back country. No part of the inland has a better soil, nor a finer river to transport its productions by—nor yet a finer bay. But hitherto the trade has been but trifling. Indeed this district is but newly, and *still* thinly inhabited. If ever the country comes to be thickly settled, and commerce unshackled by restriction, this harbour must become the seat of trade, and the capital of the south coast of Cuba.